Amendments to the Claims:

1. (currently amended) An apparatus for the electrostatic purification of a gas flow, comprising, arranged successively in the flow direction of the gas in a conduit, the sections:

A) in a first conduit section (1) an electrostatic charging unit for generating a corona discharge through which the raw gas (4) - electrically charged - passes and forms a space charge volume for a main purification step,

B) a unit comprising a group of grounded electrodes arranged in a second conduit section (2) for a follow-up purification, and

C) a filter structure arranged in a following third conduit section (3) for filtering the gas flow for final purification, wherein

~~In~~ in the electrostatic charging unit installed in the first conduit section (1) in the flow direction of the gas:

an annular collector is disposed at the inner wall surface of the gas conduit for collecting the ~~condense~~ condensed water from the upstream wall of the gas flow conduit,

a grounded electrode (111) is supported in said first conduit section and includes openings or nozzles (120) which have a conically contracting entrance area, a circular center section and a conically expanding exit flow area (121),

a grid structure (112) is supported by at least three penetrations (114) evenly distributed over the circumference of the first conduit section so as to extend parallel to the grounded electrode (111), said grid structure (112) being chargeable with a high voltage and having intersecting locations coinciding axially with the openings or nozzles (120) in said grounded electrode (111),

pointed electrodes (113) are mounted on the intersection locations so as to be longitudinally adjustable and extend into the conically expanding exit areas (121) of said grounded electrode (111),

said space charge volume is provided at the downstream end of said first conduit section (1) and has a metallic wall surface for forming a space charge for the deposition of particles on the metallic wall surface,

the group of grounded electrodes (212) installed in the second conduit section (2) consists of a bundle of spaced tubes (212) extending parallel to the axis of the second conduit section (2),

perforated end face plates (213) with openings corresponding to the tube bundle (212) are disposed at the upstream and the downstream end faces of the tube bundle such that an admission opening and an exit opening of the inner tube diameter is provided for each of the tubes (212),

at least one perforated support plate (222) with openings through which the tubes (212) extend is supported equally spaced between the end face plates 213 so that at least two chambers are formed which are in communication with each other,

in the wall of said second conduit section (2) connectors (215, 217) are provided forming inlets and outlets for a coolant (214, 216) for cooling the tubes (212),

a grounded support structure with a support grid is supported on a ~~consoles~~ console (210) mounted to the wall of said second conduit section (2), and supports said tube bundle (212),

connectors (232) are mounted to said second housing section (2) adjacent said grounded support structure for the discharge of water collected therein,

the upstream ends of the grounded electrodes (212) are disposed at a distance from the charging unit which is 1 to 5 times the diameter D of the grounded electrode (111),

upstream from the tube bundle (212) a water supply pipe extends to the center of the second conduit section (2) and is provided with a spray head (220) arranged so as to direct a spray cone over the bundle of grounded electrodes (212) fully covering the front end of the tube bundle (212) to flush off particles deposited thereon,

the filter unit disposed in the third conduit section (3) for final filtering the gas is constructed as follows:

a filter structure comprising a tubular support cage (323) enveloped by a porous filter material is supported in the third conduit section (3) in spaced relationship from the wall of the third conduit section (3) to form a gap between the inside wall of the third conduit section and the filter unit into which the gas from the second conduit section (2) is conducted and from which the gas flows through the porous filter material wherein the remaining particles are deposited,

the filter unit is supported at its downstream end by an annular console (314) which is connected to the wall of said third conduit section (3) and which, at the same time, forms an annular water collection space,

a filter lid (311, 312) is disposed on top of the filter unit and is provided at its top with an annular tub, which is open in an upstream direction for the collection of water,

a water supply pipe extends through said filter lid (311, 312) into said filter cage and is provided therein with at least one spray head (322) for spraying water onto the inside wall of said filter for washing said filter,

the filter unit (310, 323) including said lid is engaged between consoles (313, 314) mounted to the third conduit sec-

tion (3) at the upstream and downstream ends of said filter unit.

2. (currently amended) An apparatus for the electrostatic purification of a gas flow, comprising, arranged successively in the flow direction of the gas in a conduit comprising three sections:

A) in a first conduit section (1) an electrostatic charging unit for generating a corona discharge through which the raw gas (4) electrically charged - passes and forms a space charge volume for a main purification step,

B) a unit comprising a group of grounded electrodes arranged in a second conduit section (2) for a follow-up purification and

C) a filter structure arranged in a following third conduit section (3) for filtering the gas flow for final purification, wherein

In the electrostatic charging unit installed in the first conduit section (1) in the flow direction of the gas:

an annular collector is disposed at the inner wall surface of the gas conduit for collecting the condense water from the upstream wall of the gas flow conduit,

a grounded electrode (111) is supported in said first conduit section and includes openings or nozzles (120) which have a conically contracting entrance area, a circular center section and a conically expanding exit flow area (121),

a grid structure (112) is supported by at least three penetrations (114) evenly distributed over the circumference of the first conduit section so as to extend parallel to the grounded electrode (111), said grid structure (112) being chargeable with a high voltage and having intersecting locations coinciding axially with the openings or nozzles (120) in said grounded electrode (111),

pointed electrodes (113) are mounted on the intersection locations so as to be longitudinally adjustable and extend into the conically expanding exit areas 121 of said grounded electrode (111),

said space charge volume is provided at the downstream end of said first conduit section (1) and has a metallic wall surface for forming a space charge for the deposition of particles on the metallic wall surface,

the group of grounded electrodes (212) installed in the second conduit section (2) consists of a bundle of spaced tubes (212) extending parallel to the axis of the second conduit section (2),

perforated end face plates (213) with openings are disposed at the upstream and the downstream end faces of the tube bundle,

a grounded support structure with a permeable support grid is supported on a console (210) mounted to the wall of said second conduit section (2), and supports said tube bundle (212),

connectors (232) are mounted to said second housing section (2) adjacent said grounded support structure for the discharge of water collected therein,

the upstream ends of the grounded bundle of tubes (212) are disposed at a distance from the charging unit which is 1 to 5 times the diameter D of the grounded electrode (111),

upstream from the tube bundle (212) a water supply pipe extends to the center of the second conduit section (2) and is provided with a spray head (220) arranged so as to direct a spray cone over the bundle of tubes (212) fully covering the front end of the tube bundle (212) to flush off particles deposited thereon,

at least one water discharge connector (232) is provided for discharging water from said tubes (212),

the wall thickness of the tubes (212) is, because of an equalized inside and outside pressure ~~small~~, that is, based on the tube diameter D_2 in the range of

$$0.01\ D_2 < d_{ws} < 0.1\ D_2$$

the filter unit disposed in the third conduit section (3) for final filtering the gas is constructed as follows:

a filter structure comprising a tubular support cage (323) enveloped by a porous filter material is supported in the third conduit section (3) in spaced relationship from the wall of the third conduit section (3) to form a gap between the inside wall of the third conduit section and the filter unit into which the gas from the second conduit section (2) is conducted and from which the gas flows through the porous filter material wherein the remaining particles are deposited,

the filter unit is supported at its downstream end by an annular console (314) which is connected to the wall of said third conduit section (3) and which, at the same time, forms an annular water collection space,

a filter lid (311, 312) is disposed on top of the filter unit and is provided at its top with an annular tub, which is open in an upstream direction for the collection of water,

a water supply pipe extends through said filter lid (311, 312) into said filter cage and is provided therein with at least one spray head (322) for spraying water onto the inside wall of said filter for washing said filter,

the filter unit (310, 323) including said lid is engaged between consoles (313, 314) mounted to the third conduit section (3) at the upstream and downstream ends of said filter unit.

3. (original) An apparatus according to claim 1, wherein the high voltage grid (112) is supported by said penetrations (114) such that it is adjustable laterally and vertically and

said penetrations (114) are provided with a gas connector (117) for supplying a protective gas thereto to ensure insulation.

4. (original) An apparatus according to claim 2, wherein the high voltage grid (112) is supported by said penetrations (114) such that it is adjustable laterally and vertically and said penetrations (114) are provided with a gas connector (117) for supplying a protective gas thereto to ensure insulation.

5. (original) An apparatus according to claim 3, wherein said tubes (212) consist of a metallic or non-metallic material and the surfaces of the electrode-forming tube bundle (212) are increased at least at one side thereof.

6. (original) An apparatus according to claim 5, wherein said tubes (212) are corrugated.

7. (original) An apparatus according to claim 5, wherein said tubes have annular ribs mounted on the tubes in good heat transfer relationship therewith.

8. (original) An apparatus according to claim 1, wherein said tubes include spiral gas conductors for conducting the gas in a spiral motion through the tubes.

9. (original) An apparatus according to claim 2, wherein said tubes include spiral gas conductors for conducting the gas in a spiral motion through the tubes.

10. (original) A method for the electrostatic purification of a gas stream in a gas purification plant, wherein said

gas stream is first cooled and water-vapor saturated, the gas stream is then conducted past a condensate collector (110) through a grounded nozzle plate (111) having conical nozzle exit areas into an electrode space formed by the nozzle exit areas and high voltage electrode tips (122) extending into said exit areas, where the gas is expanded and wherein aerosol particles carried in the gas stream are electrostatically charged by a corona discharge, the gas stream is then supplied to a space defined by grounded walls (2) on which some of the charged particles are deposited and then through the interior of a bundle of grounded tubes (212) on the walls of which additional charged particles are deposited, which cooling water is conducted around the outer wall surfaces of said grounded tubes to remove heat therefrom, the gas stream is then conducted radially inwardly through an annular filter of a porous material (310) whereby the last remaining gas particles are deposited while water is periodically or continuously sprayed onto the inner surfaces of the annular filter for flushing the deposits of said filter and the water is collected and finally conducting the purified and electrically neutralized gas out of the filter through its central bottom opening into the environment.

11. (original) A method according to claim 10, wherein the grounded tubes through which said gas stream is conducted is periodically flushed by a water spray.

12. (currently amended) A method according to claim ~~12~~ 11, wherein the gas stream is cooled while passing through the grounded tubes by coolant conducted past the outside surface of said tubes, whereby particle deposition on the inside walls of said tubes is enhanced.

13. (original) A method according to claim 12, wherein the gas stream is conducted through said tubes in a swirling fashion by a spiral insert in said tubes so that the particles are subjected to centrifugal forces forcing them toward the walls of the grounded tubes where they are deposited.

14. (currently amended) A method according to claim 13, wherein the heat of the coolant heated during passage past said tubes is used for heating ~~the~~ an insulating gas or, if said coolant is a gas, is directly used as insulating gas.

15. (original) A method for the electrostatic cleaning of gas according to claim 10, wherein said gas is conducted over both the inner and outer surfaces of said grounded tubes whereby said charged particles are deposited on both surfaces of said tubes and both surfaces of said grounded tubes are periodically flushed.